

AF/1751



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C. Brant Cook 39,151
Name of Attorney or Agent Registration No.
C. Brant Cook
Signature of Attorney or Agent

Case CM1431

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of :
J.-F. Bodet, et al. : Group Art Unit 1751
Serial No. 09/341,979 : Examiner Greg DelCotto
Filed July 21, 1999 :
For DETERGENT COMPOSITIONS WITH IMPROVED PHYSICAL STABILITY AT :
LOW TEMPERATURE

BRIEF ON APPEALS

Box AF

Commissioner for Patents

Washington, D.C. 20231

Dear Sir:

Enclosed, pursuant to 37 CFR 1.192(a), is Appellant's brief on Appeal for the above application. The Brief is being forwarded in triplicate.

Please charge the fee of \$310 pursuant to 37 CFR 1.17(c) to Deposit Account No. 16-2480 for the filing of the brief in support of an appeal. The Commissioner is also authorized to charge any additional fees with may be required to this account. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

By *C. Brant Cook*
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November 6, 2000
The Procter & Gamble Company
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P. O. Box 538707
Cincinnati, OH 45253-8707
JT:dlr
(CM1431Appeal BriefTrans.doc)

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#12
11-17-00

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For DETERGENT COMPOSITIONS :
WITH IMPROVED PHYSICAL
STABILITY AT LOW
TEMPERATURE

APPELLANT'S BRIEF

Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

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Dear Sir,

This is responsive to the Advisory Action mailed on August 17, 2000 in the above-captioned application, setting a two (2) month period from the date of the Notice of Appeal filed on September 1, 2000, for filing an Appellant's Brief. This Appellant's Brief is being filed in triplicate.

REAL PARTY IN INTEREST

This Application has been assigned to The Procter & Gamble Company of Cincinnati, Ohio. The Inventor(s), Jean-Francois Bodet, Suchareeta Patil and Garry Kenneth Embleton, assigned his/her/their interest to the Procter & Gamble Company in an assignment corresponding to application Serial No.09/341,979, filed July 21, 1999 (recorded on October 25, 1999), at reel number 010332, and frame number 0660).

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to the Appellant, or known to Appellant's legal representative, that will directly affect the Board's decision in the present appeal.

STATUS OF CLAIMS

The present application was filed under 35 U.S.C. §371. The application was originally filed with claims 1-11. No claims were added by amendment. Claims 6 and 11 have been cancelled. An amendment mailed on August 2, 2000 has not been entered by the Examiner, for reasons stated in the August 17, 2000 Advisory Action. Claims 1-5 and 7-10 are pending and are finally rejected.

Appellant appeals the final rejection of June 6, 2000 (the Notice of Appeal for these claims was mailed on September 1, 2000 and received by the Office on September 5, 2000). A complete copy of the appealed claims is set forth in the Appendix.

STATUS OF AMENDMENTS

Appellant's amendment mailed on August 2, 2000 was not entered due to reasons of record in the August 17, 2000 Advisory Action. The Examiner states "Applicant's newly submitted amendment raises new issues not previously presented which would required further consideration and/or search. Specifically, Applicant has amended claim 1 to recite . . . 'consisting of' which would require further consideration and or search."

Applicants are unclear as to how an amendment that narrows the Claims by incorporating several limitations from dependant claims and replaces "comprising" with "consisting of" would "require further consideration and or search" by the Examiner.

SUMMARY OF INVENTION

The invention relates to aqueous high-sudsing liquid detergent compositions, particularly those useful for washing dishes, having improved physical stability at low temperatures even when cations are present. A particularly effective surfactant system combines amine oxides with alkyl alkoxy sulphate surfactants. Due to the nature of these surfactant systems, a white solid precipitates when the detergent is subjected to low temperature, particularly when the detergent also contains cations and especially when these cations are magnesium salts – a component strongly desired for product performance. This precipitate causes problems in product dispensation and use. The precipitate also detracts from the aesthetic appeal of the product, particularly when the product is a clear formulation, a formulation that has become increasingly popular with consumers. The present invention resolves the problem of precipitate formation at low temperatures and enables the production of a stable, clear detergent product.

Specifically, the invention is a *high sudsing* aqueous liquid detergent composition having from 30% to 70% by weight of the total composition water, and a *surfactant mixture including an alkyl alkoxy sulphate surfactant* of the formula $R_1O(A)_xSO_3M$, where R_1 is an alkyl or alkenyl group having 9 to 16 carbon atoms, A is an alkoxy group, x represents 0.5 to 3 in average, and M is a member selected from the group consisting of alkali metals, alkali earth metals, ammonium and alkanolammonium, and an amine oxide surfactant, wherein the alkyl alkoxy sulphate surfactant contains from 20% to 60%, by weight, of branched alkyl alkoxy sulphate surfactant. This branched material addresses the problem of low temperature instability thus enabling the formulation of clear products that remain clear even when magnesium salts are present.

ISSUES

- (1) Whether the Examiner has established a case of obviousness of any of the claimed subject matter, as claimed in Claims 1-5 and 7-10 over U.S. Patent No. 5,387,373 to Naik [hereinafter "Naik"] particularly in light of the fact that Naik teaches away from the Applicants' invention by disclosing liquid detergent compositions that at least partially replace alkyl alkoxy sulphate surfactants with low branched alkyl sulphate surfactants.
- (2) Whether the Examiner has established a case of obviousness of any of the claimed subject matter, as claimed in Claims 1-5 and 7-10 over U.S. Patent No. 5,858,950 to Surutzidis et al. [hereinafter "Surutzidis"] particularly in light of the fact that Surutzidis teaches away from the Applicants' invention by disclosing liquid detergent compositions that are formulated to be low-sudsing.

GROUPING OF CLAIMS

For the purposes of this appeal, Claims 1-5 and Claims 7 to 10 stand or fall together.

ARGUMENTS

- (1) Applicants' invention can not be rendered obvious over Naik since Naik teaches away from Applicants' invention by disclosing liquid detergent compositions that at least partially replace alkyl alkoxy sulphate surfactants with low branched alkyl sulphate surfactants whereas Applicants' invention requires alkyl alkoxy sulphate surfactant.

The Naik reference relates to "[a] stable aqueous detergent composition . . . containing from 10 to 80% by weight of an active detergent mixture comprising primary alkyl sulphate It . . . can

replace or partially replace alkyl ether sulphate.” (See abstract, emphasis added). By contrast, the Applicants’ invention is “a detergent composition which comprises an effective amount of a surfactant system comprising an amine oxide and an alkyl alkoxy sulphate surfactant.” (See Specification at page 2, third paragraph). Further, Naik prefers low-branched (less than 12 Carbon atoms) as it states “[t]he C₁₀ and/or C₁₁ alkyl sulphate is surprisingly effective as a detergent in such compositions” (See abstract). Even if Applicants’ invention contained alkyl sulphate, it would be a higher branched alkyl sulphate or one “. . . having 8 to 22 carbon atoms, preferably 12 to 16 carbon atoms.” (See Specification at page 8, fifth paragraph).

Moreover, much can be elucidated about the thrust of Naik’s invention from the examples provided within the reference. Specifically, Examples 1 to 6 (Naik’s preferred embodiments) are compared with Examples A and B in order to exhibit Naik’s mildness. (See column 8, lines 55). It is notable that none of Naik’s prepared samples contain alkyl alkoxy sulphate. Only Comparative Example B contains alkyl alkoxy sulphate in the form of Lialet 123-3S, a C₁₂ and C₁₃ alkyl ether sulphate; and, Naik is utilizing it as a “control” to differentiate the purported effectiveness of his or her invention.

It is submitted that the Naik reference, which clearly relates to alkyl sulphate based, as opposed to alkyl alkoxy sulphate based, detergent compositions, teaches away from Applicants’ invention. In short, the Naik reference would be considered non-pertinent art with regard to the present invention.

In light of the fact that Naik teaches away from the formulation of the Applicants’ compositions, it is submitted that Applicants’ invention is neither taught nor suggested by Naik in the sense of 35 U.S.C. §103.

- (2) Applicants’ invention cannot be rendered obvious over Surutzidis since Surutzidis teaches away from Applicants’ invention by disclosing liquid detergent compositions that are formulated to be low-sudsing whereas Applicants’ invention is intended to be high sudsing.

The Surutzidis reference relates to liquid detergent compositions that are “. . . low sudsing” (See abstract and column 1, line 38, wherein it is taught that “sudsing is reduced” and “suds suppressing agent may only be required in minimum amounts”). By contrast, the compositions of the present invention are formulated not only to be stable, but also to provide good sudsing (see specification at page 5, second paragraph), good grease removal performance (see specification at page 4, 3rd full paragraph) and skin mildness (see specification at page 4, 4th full paragraph).

In order to achieve these effects, Applicants herein have balanced their compositions to employ only the specified amount of total branched-chain alkyl alkoxylated sulphate. Moreover, said

alkyl alkoxy sulphate has a restricted chain length range and a restricted degree of alkoxylation. Moreover, the alkyl alkoxylated sulphate component contains unbranched alkyl alkoxy sulphate, and the composition further contains the amine oxide as an essential ingredient. (See the specification at page 3, 4th and 5th full paragraphs.) In short, the entire purpose of the present invention is to provide high sudsing, high grease cutting, mild-to-the-skin, yet stable, compositions by the proper selection of the specified components.

It is submitted that nothing in the Surutzidis reference, which clearly relates only to low-sudsing detergent compositions, teaches or suggests this specific combination of ingredients. Indeed, it might fairly be stated that one seeking to provide high sudsing dishwashing-type compositions which are the subject matter of the present invention (high sudsing is notoriously important in hand dishwashing operations) would not be led to even consider the teachings of Surutzidis which relate to low sudsing compositions. In short, the Surutzidis reference would, it is submitted, be considered non-pertinent art with regard to the present invention.

In light of the fact that Surutzidis teaches away from the formulation of high sudsing liquid compositions, it is submitted that the present invention is neither taught nor suggested by Surutzidis in the sense of 35 U.S.C. §103.

SUMMARY

In view of all of the above, Appellant respectfully submits that Claims 1 to 5 and 7 to 10 are not rendered obvious in light of either Naik or Surutzidis, particularly since both teach away from at least one vital aspect of the Applicants' invention.

In addition to the arguments set forth above, any and all arguments submitted by the Applicants in prosecution of the above-identified application are incorporated herein by reference.

Accordingly, Applicants respectfully request reversal of the Examiner's rejection in the above-identified case.

Respectfully submitted,

By 

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November 6, 2000
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APPENDIX OF CLAIMS

1. An aqueous liquid detergent composition ^{comprising} from 30% to 70% by weight of the total composition of water, and a surfactant mixture comprising:

- an alkyl alkoxy sulphate surfactant of the formula $R_1O(A)_xSO_3M$, where R_1 is an alkyl or alkenyl group having 9 to 16 carbon atoms, A is an alkoxy group, x represents 0.5 to 3 in average, and M is a member selected from the group consisting of alkali metals, alkali earth metals, ammonium and alkanolammonium, and
- an amine oxide surfactant;

said alkyl alkoxy sulphate surfactant comprising from 20% to 60%, by weight, of branched alkyl alkoxy sulphate surfactant.

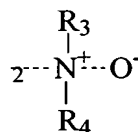
2. A composition according to claim 1 which comprises from 40% to 60% by weight water.

3. A composition according to claim 1 wherein said alkyl alkoxy sulphate surfactant comprises from 20% to 55%, by weight, of said branched alkyl alkoxy sulphate surfactant.

4. A composition according to claim 3 wherein said alkyl alkoxy sulphate surfactant comprises from 30% to 50%, by weight, of said branched alkyl alkoxy sulphate surfactant.

5. A composition according to claim 1 which comprises magnesium ions, in amounts of from 0.1% to 2% by weight of the total composition.

7. A composition according to Claim 1 wherein said amine oxide surfactant is of the formula:



wherein R_2 represents a straight or branched alkyl or alkenyl group having 10 to 16 carbon atoms, and R_3 and R_4 each represent a C_1 to C_4 hydrocarbon chain.

8. A composition according to Claim 1 which is a clear liquid packaged in a transparent container.

9. A method of washing dishes with a composition according to any of the preceding claims, wherein 0.01ml to 150ml of said composition is diluted in 2000ml to 20000ml water, and the dishes are immersed in the diluted composition thus obtained and cleaned by contacting the soiled surface of the dish with a cloth, sponge or a similar article.

10. A method of washing dishes, wherein the dishes are immersed in a water bath, an effective amount of a composition according to claim 8 is absorbed onto a device, and the device with the absorbed composition is contacted individually to the surface of each of the soiled dishes.